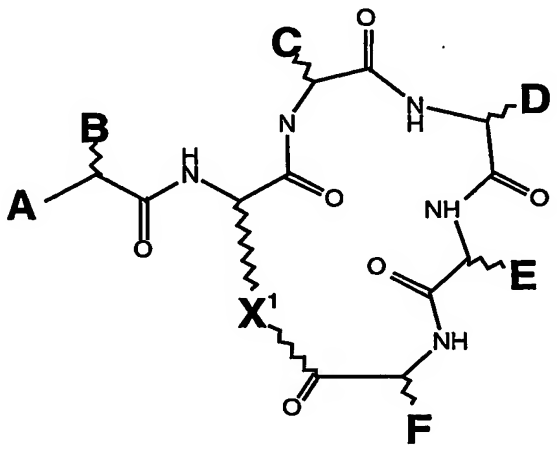
CLAIMS

1. A method of treatment of osteoarthritis, comprising the step of administering an effective amount of an inhibitor of a G protein-coupled receptor to a subject in need of such treatment, in which the inhibitor is a compound which

(a) is an antagonist of a G protein-coupled receptor,

(b) has substantially no agonist activity, and

(c) is a cyclic peptide or peptidomimetic compound of formula I



where A is H, alkyl, aryl, NH_2, NH-alkyl, $N(alkyl)_2$, NH-aryl, NH-acyl, NH-benzoyl, $NHSO_3$, $NHSO_2$-alkyl, $NHSO_2$-aryl, OH, O-alkyl, or O-aryl;

B is an alkyl, aryl, phenyl, benzyl, naphthyl or indole group, or the side chain of a D- or L-amino acid, but is not the side chain of glycine, D-phenylalanine, L-homophenylalanine, L-tryptophan, L-homotryptophan, L-tyrosine, or L-homotyrosine;

C is the side chain of a D-, L- or homo-amino acid, but is not the side chain of isoleucine, phenylalanine, or cyclohexylalanine;

D is the side chain of a neutral D-amino acid, but is not the side chain of glycine or D-alanine, a bulky planar side chain, or a bulky charged side chain;

E is a bulky substituent, but is not the side chain of D-tryptophan, L-N-methyltryptophan, L-homophenylalanine, L-2-naphthyl L-etrahydroisoquinoline, L-cyclohexylalanine, D-leucine, L-fluorenylalanine, or L-histidine;

F is the side chain of L-arginine, L-homoarginine, L-citrulline, or L-canavanine, or a bioisostere thereof; and

X is $-(CH_2)_nNH-$ or $(CH_2)_n-S-$, where n is an integer of from 1 to 4; $-(CH_2)_2O-$; $-(CH_2)_3O-$; $-(CH_2)_3-$; $-(CH_2)_4-$; $-CH_2COCHRNH-$; or $-CH_2-CHCOCHRNH-$, where R is the side chain of any common or uncommon amino acid.

2. A method according to claim 1, in which n is 2 or 3.

3. A method according to claim 1 or claim 2, in which A is an acetamide group, an aminomethyl group, or a substituted or unsubstituted sulphonamide group.

4. A method according to claim 3, in which A is a substituted sulphonamide, and the substituent is an alkyl chain of 1 to 6 carbon atoms, or a phenyl or toluyl group.

5. A method according to claim 4, in which the substituent is an alkyl chain of 1 to 4 carbon atoms.

6. A method according to any one of claims 1 to 5, in which B is the side chain of L-phenylalanine or L-phenylglycine.

7. A method according to any one of claims 1 to 6, in which C is the side chain of glycine, alanine, leucine, valine, proline, hydroxyproline, or thioproline.

8. A method according to any one of claims 1 to 7, in which D is the side chain of D-Leucine, D-homoleucine, D-cyclohexylalanine, D-homocyclohexylalanine, D-valine, D-norleucine, D-homo-norleucine, D-phenylalanine, D-tetrahydroisoquinoline, D-glutamine, D-glutamate, or D-tyrosine.

9. A method according to any one of claims 1 to 8, in which E is the side chain of an amino acid selected from the group consisting of L-phenylalanine, L-tryptophan

and L-homotryptophan, or is L-1-napthyl or L-3-benzothienyl alanine.

10. A method according to any one of claims 1 to 9, in which the inhibitor is a compound which has antagonist activity against C5aR, and has no C5a agonist activity.

11. A method according to any one of claims 1 to 10, in which the inhibitor has potent antagonist activity at sub-micromolar concentrations.

12. A method according to any one of claims 1 to 11, in which the compound has a receptor affinity IC50< 25μM, and an antagonist potency IC50< 1μM.

13. A method according to any one of claims 1 to 12, in which the compound is selected from the group consisting of compounds **1** to **6**, **10** to **15**, **17**, **19**, **20**, **22**, **25**, **26**, **28**, **30**, **31**, **33** to **37**, **39** to **45**, **47** to **50**, **52** to **58** and **60** to **70** described in PCT/AU02/01427.

14. A method according to claim 13, in which the compound is compound **1** (AcF-[OP-DCha-WR]), compound **33** (AcF-[OP-DPhe-WR]), compound **60** (AcF-[OP-DCha-FR]) or compound **45** (AcF-[OP-DCha-WCit]) described in PCT/AU02/01427.

15. A method according to any one of claims 1 to 14, in which the inhibitor is used in conjunction with one or more other agents for the treatment of osteoarthritis.

16. Use of a compound as defined in any one of claims 1 to 14 in the manufacture of a medicament for the treatment of osteoarthritis.